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The Simple View of Reading: Three Assessments of Its Adequacy

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Abstract

In this article, we provide some comments on the simple view of reading (SVR), now some 30 years after its initial proposal and empirical work (Gough & Tunmer, 1986; Hoover & Gough, 1990). We begin with an overview of what the SVR is as a conceptual model, as well as what it is not. We follow this with comments, in turn, on three papers presented in this special issue that assessed the adequacy of the SVR. We close with thoughts on the main points across the three papers reviewed. Throughout, we not only comment on the research about the simple view but also on its educational implications.

Keywords

simple view of reading, reading comprehension, language comprehension, decoding

Features of the Simple View of Reading (SVR)

The SVR holds that at the broadest level of analysis, *reading comprehension*, the ability to understand printed text, is determined by just two cognitive capacities: *decoding*, the ability to recognize words in print, and *language comprehension*, the ability to understand spoken language. Importantly, the three components of the SVR can be more precisely defined:

- Reading comprehension is the ability to extract and construct literal and inferred meaning from linguistic discourse represented in print.
- Decoding is the ability to recognize printed words accurately and quickly to efficiently gain access to the appropriate word meanings contained in the internal mental lexicon.
- Language comprehension is the ability to extract and construct literal and inferred meaning from linguistic discourse represented in speech.

There are two key aspects of these definitions to keep in mind. The first is that decoding entails an outcome that is achieved both accurately and quickly, and the second is that reading and language comprehension are defined in parallel fashion.

The reason decoding must be accurate is that an incorrect identification of a word (e.g., mistakenly identifying *not* as *hot*) can result in very divergent renderings of a sentence's meaning (e.g., compare *John was not on the boat* with *John was hot on the boat*). The reason decoding must be completed quickly is because if it is not, then the limitations of short-term memory and overall cognitive capacity come into play. The time constraint on short-term memory impacts understanding sentences as what was initially read may well be forgotten before it can be fully integrated with the understanding that must come from what remains to be read. Thus, slowly sounding out each word encountered will not likely result in successful comprehension even if all of the words are finally correctly identified. In addition, cognitive resources in general are limited, and the more such resources are consumed by decoding the fewer will be available to focus on comprehension.

The reason for parallel definitions of comprehension is that the SVR holds that reading comprehension and language comprehension engage the same cognitive capacities save the different points of access, one through print and the other through speech. Beyond conceptual clarity, parallel definitions become important when assessing the SVR. If reading comprehension is assessed by retelling read passages of printed text but language comprehension is measured by providing definitions of vocabulary words, then the contrast is not parallel as the latter only represents a subset of the skills covered in the former.

Beyond the above definitions, the SVR proposes that both decoding (D) and language comprehension (C) are necessary, and thus, of equal importance, for reading comprehension (R). This fundamental idea is represented in the simple equation, $R = D \times C$, where R, D, and C range in

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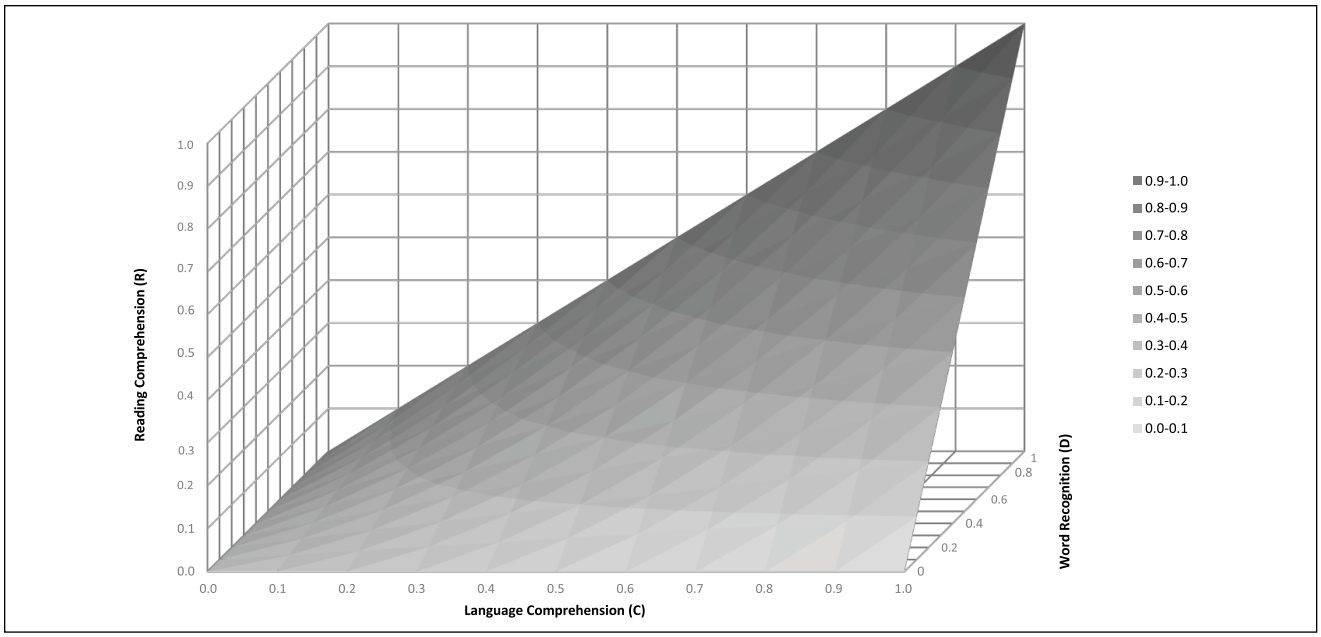

Figure 1. The theoretical relationships between the three variables of the simple view of reading, where reading comprehension (*R*) is the product of word recognition (*D* for decoding) and language comprehension (*C*), with each variable ranging in value from 0 (no skill) to 1 (perfect skill).
Source. Graphic from Hoover and Tunmer (2018).

value, under a theoretical perspective, from 0 (no skill) to 1 (perfect skill). Defined as a contrast of reading ability and disability, the SVR holds that reading comprehension will be impaired for anyone who has difficulty recognizing the words of the text or understanding the language being read, or both. Stated another way, the SVR holds that wherever there are high skills in decoding and language comprehension, there will be high skill in reading comprehension, otherwise there will be some level of reading difficulty or disability.

In the SVR, decoding is the term used for the ability to recognize words in print. However, within the reading literature, this term is usually more narrowly defined as a particular way to achieve word recognition. Specifically, decoding is word recognition accomplished through alphabetic coding, which relates the letter sequences within a given word to the phonological structures underlying its pronunciation thereby allowing access to the word's location in the mental lexicon. Knowledge of these relationships is critical for learning the more direct linkages between the representations of a word's letter sequences and the location of that word in the mental lexicon. These more direct linkages, which augment the phonological linkages, support the automaticity requirements of accurate and quick word recognition discussed earlier. The use of decoding rather word recognition in the original SVR proposal highlighted the importance of alphabetic coding in the development of word recognition, which had emerged as a key issue in the Great Debate (Chall, 1967) over phonics and whole language. Nonetheless, in the SVR, keep in mind that decoding is used in the broader sense of word recognition rather than the more narrow sense of alphabetic coding.

The other SVR component, language comprehension, is often referenced as linguistic comprehension or listening comprehension. Although all three terms can be equivalent in meaning, the latter is sometimes used to denote a particular way of assessing the more general construct of language comprehension (e.g., by retelling text that has been read aloud by another). Finally, reading comprehension and reading are generally interchangeable terms. But the latter term can be ambiguous, as it is sometimes used to refer to word recognition (e.g., word calling when comprehension is not the goal). In short, readers must be careful in coming to an understanding of the particular use of these terms within the reading literature.[1]

Figure 1 depicts the SVR in a three dimensional plot showing the theoretical skill levels that range from 0 to 1 for each of its three variables. Along the axes where there is no skill in either word recognition or language comprehension (or both), there is no skill in reading comprehension. But as skill levels increase beyond these two baseline values, skill in reading comprehension also increases.

The surface of the plot defines the theoretical space over which reading comprehension ranges based on the values of its two components. You can see that if a theoretical skill level of .5 represents the arbitrary demarcation between

poor and good skill levels, then there are no good readers (i.e., above .5 in reading comprehension) when either word recognition or language comprehension, or both, are poor (i.e., below their respective .5 levels). You can also see that the amount of increase in reading comprehension for a given increase in one component's skill level is greater the higher the skill level in the other component. To take an example, this means that instruction that improves the word recognition ability of a student will result in greater gains in reading comprehension if that student has stronger rather than weaker language comprehension skills. With this understanding of the SVR in mind, let us consider some additional features of the model.

First, given that the SVR defines reading through a close correspondence with language comprehension, this constrains what counts as reading by excluding skills like skimming or the interpretation of graphics (e.g., schematics, drawings, pictures, charts) that may appear in print but which are largely nonlinguistic.

Second, the SVR does not claim that reading is simple. Both word recognition and language comprehension are highly complex, and because of that, reading is complex. The SVR simply separates the complexity of reading into two component parts.

Third, the SVR is a concurrent or static model, describing reading at a single point in time. It is not, by itself, a model of reading development, though certain aspects of reading development can be captured as successive changes in the relative strengths of its two component skills at distinct points of time. Thus, the SVR does not state *how* reading develops over time (i.e., what and when component skills change), only that the level of development attained at *any* point in time will depend *entirely and only* on the multiplicative combination of the levels of the two components.

Fourth, the SVR provides an account of reading that encompasses the full range of reading skill. This range runs from the nonreader, where either of the two component skills, or both, are nonexistent, to the fully proficient reader, where skills in both components (again, theoretically) are fully developed.

Fifth, the SVR can model reading based in different levels of linguistic complexity and types of linguistic discourse as long as the linguistic properties are parallel (i.e., comparable) in the assessments of both language and reading comprehension. To take an example, compare assessing a third-grade student's (language and reading) comprehension performance relative to third-grade (language and reading comprehension) materials with the same student's performance relative to higher level (language and reading comprehension) materials. The SVR can provide an adequate description of reading in both situations through reference to the standard being employed for comprehension level (e.g., mastery of reading third-grade materials, but less than mastery when reading higher level materials). This recognizes that reading performance can improve over a lifetime, and that such performance can only be assessed against a relative standard, not an absolute one.

Similar arguments can be made regarding different types of linguistic discourse (e.g., narrative vs. expository), again, as long as these types of discourse are aligned across both language and reading comprehension assessments. Thus, while typical narrative and expository text may differ along a number of linguistic parameters (e.g., word frequency, rarity of word meaning, syntactic complexity, specification of context, cohesion, semantic explicitness), this does not mean that reading comprehension is any less dependent on word recognition and language comprehension for success with the different text types. The results obtained from taking a measure of language comprehension based on listening to narrative material and contrasting it with a measure of reading comprehension based on reading expository materials would reflect a faulty assessment strategy. Such an arrangement would neither be helpful in assessing the adequacy of the SVR model nor in assessing our understanding of an individual's reading ability under the SVR model.

Sixth, in terms of its application to reading instruction and intervention, while the SVR holds that skills are needed in two components for reading success, it is silent on the instructional protocols to build those skills. Nonetheless, thinking about typical development in reading can be instructive. In the case of typical beginning readers, what is needed to raise their reading comprehension to the level of their language comprehension is skill in word recognition. A typical kindergartener has a highly but not fully developed capacity for language comprehension, and is capable of understanding extended discourses. Typically these children have almost no ability to recognize printed words. For such children, their reading comprehension is limited by their word recognition skills—they can comprehend much more through their language comprehension processes when these are accessed through speech than when access through print is required. In short, for these children their limited word recognition skills will not allow their relatively greater language comprehension skills to be fully engaged. But as these children improve their word recognition skills in the later grades they become able to efficiently recognize all the words on the pages they are to read. At this point, these children are able to understand through print anything they can understand through speech—for them, language comprehension has now become the limiting factor on reading comprehension. It is important for educators to keep these relationships in mind as they think about supporting the reading development of their students regardless of where those students are in their academic careers.

Finally, we should note that the SVR has also been applied to reading policy concerns. In England, for example, the SVR was adopted in the government's Rose (2006)

report as the model for understanding reading. The report served as the basis for revising the national curricular advice given to all of England's schools on teaching reading. As one example, prior to the Rose report, teaching the relationships between a word's letters and its phonological properties was done incidentally, with more explicit instructional focus placed on using other cues for guessing a word's identity (e.g., semantic context). But given the role of efficient word recognition as emphasized in the SVR, and the importance of alphabetic coding in achieving it, the curricular advice was modified to teach these relationships explicitly to children to advance their word recognition skills. As an aside, in the United States, cognitive models of reading, including the SVR, have not been widely used to inform reading instruction, most likely because more importance has been given to curricular standards in driving instructional focus. Also, the systems in place for teacher preparation tend to undervalue the contributions of cognitive science in understanding reading and its teaching. As a consequence, teachers coming through U.S. programs are generally less prepared than they could be to teach students to read. With these brief highlights of the SVR, let us now turn to the three studies we were asked to review.

Comments on Three Assessments of the Adequacy of the SVR

Chiu Study

Chiu made multiple assessments of 305 participants on their oral language skills (11 measures covering vocabulary, grammar, and discourse) and code-related skills (four measures tapping letter and print knowledge, phonological awareness, and rapid automatized naming) at prekindergarten, a year before they entered formal schooling. Five years later, at Grade 3 exit, these same participants were assessed on their skills in listening comprehension (three measures covering narrative and expository texts, and tapping both inferential and noninferential information), word recognition (five measures covering word and nonword reading accuracy and efficiency, as well as passage reading fluency), and reading comprehension (three measures addressing narrative and expository text, again tapping both inferential and noninferential information).

The main aim of the study was to investigate the concurrent prediction at Grade 3 of reading comprehension through the independent contributions of listening comprehension and word recognition. Using latent variable modeling, Chiu found that 94% of the variance in reading comprehension could be so explained. Chiu also found that this model was slightly improved by including a link between listening comprehension and word recognition.

A second aim of the study was to assess whether prekindergarten measures of oral language and code-related skills could predict Grade 3 reading comprehension assessed 5 years later through their relations with Grade 3 listening comprehension and word recognition, respectively. This is an interesting prediction, especially regarding its implications for education, though it is not one made by the SVR. As we said earlier, the SVR is a concurrent model of reading and not a developmental one. Chiu reported that (a) there was longitudinal continuity between the two prekindergarten constructs and their Grade 3 complementary constructs; (b) the two prekindergarten constructs could account for a sizable amount of Grade 3 reading comprehension variance (>90%) operating through the complementary Grade 3 constructs; and (c) the best fit models allowed for concurrent covariance between the two exogenous variables in prekindergarten and in Grade 3.

Thus, the main tenet of the SVR was supported concurrently at Grade 3, finding that reading comprehension could be largely captured by skills in listening comprehension and word recognition. This highlights the importance of comprehensively assessing each of the SVR constructs and employing assessments that tap parallel skill domains across listening and reading comprehension. Furthermore, when such an assessment regimen is followed, this study shows that the SVR at Grade 3 can largely be captured by oral language and code-related skills assessed in prekindergarten. This is intriguing because it holds, as the authors note, that the levels of skill in these two constructs prior to school entry, especially for oral language skills, are predictive of an important outcome (perhaps the most important outcome of early elementary school) 5 years later.

The latter finding raises the possibility of intervention for those who show low skill levels in either of the two SVR component skill sets (or both). The finding is troubling for the same reason. It suggests that 5 years of schooling, while demonstrably improving performance across students with respect to the variables measured, might do little to change the relative positions of students to each other with respect to the two main variables that underlie skills in reading comprehension. This presents us with a challenge: If we know where students stand in prekindergarten with respect to variables that are important in their subsequent development years later, is there anything we can do to change the trajectories of those showing weaker skills? If we can, then those students would be better able to catch up to the developing skill levels of their same-aged peers who do not evidence weaker skills initially. If we cannot, then knowing the relevant prekindergarten skills of students does little to help us change their subsequent relative standing.

Chiu notes that in the sample of children studied, word recognition was more strongly related to reading comprehension than was listening comprehension at Grade 3. Chiu states that when compared with another sample using the same measures where listening comprehension was more strongly related to reading comprehension at Grade 3 than

was word recognition, the participants in the current study included a larger proportion of children from disadvantaged backgrounds. Chiu suggests that this difference might have been responsible for a developmental delay that shifted the results from the more frequently observed pattern. We will not comment further on why this might be but we do wish to make one point of clarification. As a concurrent model of reading, the SVR does not predict that the relationship between listening comprehension and reading comprehension will become stronger over time while the relationship between word recognition and reading comprehension will become weaker. The SVR does hold that if one component reaches perfection (even relatively depending on the structure of the assessments), the level of reading comprehension will be determined solely by the level of skill in the other component. The typical finding that over time, listening comprehension, rather than word recognition, holds the stronger relationship with reading comprehension likely reflects word recognition skill tending to reach ceiling (at least with the respect to the materials used in its assessment) while language comprehension (through its dependence on knowledge of the world, for example) continues to grow.

Finally, we note that Chiu found a significant improvement in the concurrent Grade 3 model fit with the inclusion of a link between word recognition and listening comprehension. The SVR holds that these components are independent, and while similar findings for such linkages have been found (e.g., Tunmer & Chapman, 2012), others have failed to do so (e.g., Braze et al., 2016). One possible explanation for this finding is that having words in one's lexicon might be helpful while mastering word recognition (e.g., to complete whole word identification based on recognition of some printed subparts or to confirm word recognition success), but once mastered, such linkages become unimportant.

Lonigan, Burgess, and Schatschneider Study

This study focused on students in later elementary school, assessing 757 students in Grades 3 through 5 with a battery of subtests from common standardized measures of reading and language. The assessments covered six reading measures (three focused on decoding and three on reading comprehension) and 20 language measures (three dealing with listening comprehension, four with receptive vocabulary, four with expressive vocabulary, three with depth of vocabulary, three with receptive syntax, and three with expressive syntax). From these measures, latent variables of decoding, linguistic comprehension, and reading comprehension were formed to assess the shared and unique influences of decoding and linguistic comprehension on reading comprehension. Lonigan et al. undertook several analyses, including ones based on different constructions of latent measures of language skill; we review and comment on the major findings below.

First, across the three grade-level samples, 85% to 100% of reading comprehension variance was accounted for by latent measures of decoding and linguistic comprehension. For all grades and levels of reading comprehension, linguistic comprehension accounted for the largest amount of unique variance in reading comprehension. As Lonigan et al. note, the first-mentioned finding is strongly supportive of the SVR and further shows the power of employing latent variables over individual predictor variables and including measures that together provide broad coverage of the underlying constructs. This is an important point given that there has been much research reported over the last 30 years suggesting deficiencies in the SVR based on data that employed single indices of the critical constructs, mismatched indices (nonparallel or poorly overlapping), or restrictive indices that provided only partial measures of the underlying constructs.

Second, in spite of the overall support for the SVR, the Lonigan et al. analyses did reveal instances where additional variance was left unexplained (up to 15%) and there were substantial amounts of shared variance (running from 41% to 69%) between decoding and linguistic comprehension in their relationships with reading comprehension. The former finding suggests there may be other constructs important to reading comprehension beyond decoding and linguistic comprehension. Alternatively, this finding could mean that the measurement instruments used are still insufficient to capture all that is involved in such skills. Whatever the truth, the study shows that uncovering it will require even stronger, more diverse measures than the wide array used here.

As Lonigan et al. note, across their analyses "almost all" of the variance in reading comprehension was accounted for by decoding and linguistic comprehension. Although we agree that latent variable approaches will be critical in identifying any additional constructs important for reading comprehension beyond decoding and linguistic comprehension, we note that even "broadly and well measured" latent variables are not necessarily perfectly measured. Thus, some residual variance may be expected. We also agree that such small amounts of residual variance suggest that if there are other proximal causes of reading comprehension, they will be relatively small compared with decoding and linguistic comprehension. Furthermore, any now unknown distal causes that were to be revealed will likely be restricted to operating through decoding or linguistic comprehension.

Lonigan et al. comment that the overlap between decoding and linguistic comprehension makes it difficult to assess whether the product of the two variables provides a better explanation of reading comprehension than the sum. As can be seen in Figure 1, reading comprehension increases linearly with increases in either decoding or linguistic comprehension except where skill in one component is nil. This is the only distinction between the additive and multiplicative

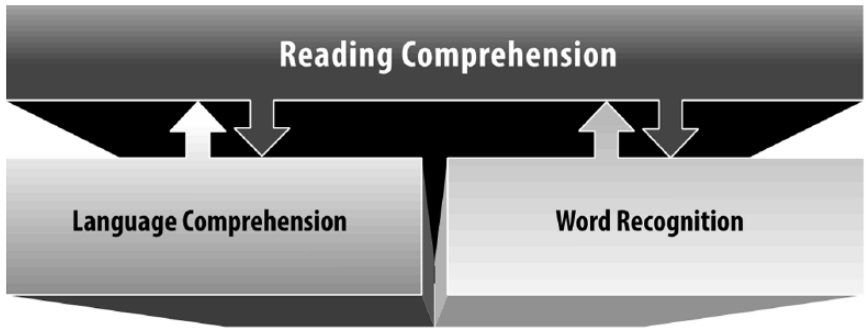

Figure 2. Reciprocally facilitating positive Matthew effects between reading comprehension and both language comprehension and word recognition.
Source. Graphic from Hoover and Tunmer (2018).

views regarding such linear increases. Thus, testing such a difference requires a special population where skills are nonexistent for a substantial number of children in at least one of the components. Indeed, the multiplicative combination was found superior to the additive one in just such a sample used by Hoover and Gough (1990), which included a sizable number of young children learning to read English who were largely monolingual Spanish speakers at school entry.

Lonigan et al. also note that the large amount of shared variance between decoding and linguistic comprehension may reflect more general linguistic or cognitive skills that drive the development of both decoding and linguistic comprehension. Such general skills could provide substantial obstacles to improving reading comprehension. However, we think there is another explanation for such shared variance, one based in Matthew effects (Stanovich, 1986) that could be easier to address via early interventions. We know that decoding and linguistic comprehension skills are themselves each dependent on the development of several other cognitive elements. Consider children who do not possess sufficient levels of mastery of these foundational skills during the early stages of learning to read and who are not provided with explicit instruction where needed to develop them, especially those pertaining to the development of decoding skills. Such children will be forced to rely increasingly on ineffective literacy learning strategies to identify unfamiliar words in text—picture cues, partial visual cues, and contextual guessing. The continued use of such ineffective compensatory strategies will inevitably lead to literacy learning difficulties and downstream Matthew effects. These rich-get-richer and poor-get-poorer effects operate as follows. Poor readers not only receive less practice in reading—because they read less, read less successfully, and read more slowly—but soon begin to confront materials that are too difficult for them. This typically results in continued avoidance of reading, inattentive behavior, low expectations of success, and withdrawal from literacy learning tasks (i.e., negative Matthew effects). As a consequence, such children are prevented from taking advantage of the reciprocally facilitating positive Matthew effects between growth in reading comprehension and growth in the two constituent components of reading, as shown in Figure 2. As children become better readers, both the amount and difficulty of the material they read increases, providing them better practice opportunities (i.e., more opportunities with more advanced text). These help children to further build skills in decoding by strengthening fluency and the implicit learning of novel (i.e., low frequency) linkages between the orthographic, phonologic, and semantic representations of words. They also help them build skills in linguistic comprehension by further developing knowledge of vocabulary, more complex syntactic structures, more diverse and complex text genres, and richer and more elaborate knowledge bases. These improvements in decoding and linguistic comprehension then promote further growth in reading comprehension by enabling children to cope with even more difficult materials that build even greater strengths in decoding and linguistic comprehension.

Note we are not implying that decoding and linguistic comprehension are *based on* reading comprehension. The SVR holds that decoding and linguistic comprehension are the proximal causes of reading comprehension at any given point in time. The dual arrows used in Figure 2 indicate that from a developmental perspective across time not only will reading comprehension grow as decoding and linguistic comprehension grow, but also that growth in reading comprehension will advance decoding and linguistic comprehension.

A third major finding in the Lonigan et al. study was that the relative contributions of decoding and linguistic comprehension changed across grades, with decoding having stronger relations with reading comprehension in younger children. Although the SVR does not predict such a pattern (as noted earlier), it does hold that the relative strength of

skill in one component impacts the relative strength the other component can have on reading comprehension. Thus, consistent with the pattern found, the relatively weaker decoding skills in younger children constrains relations between linguistic comprehension and reading comprehension, which become more evident as decoding skill improves over grade levels.

Regarding this third finding, Lonigan et al. comment that providing instructional support on linguistic comprehension for children weak in decoding will not improve reading comprehension. Although true in the short run, ignoring linguistic comprehension while providing instruction on decoding could be detrimental in the long run, for linguistic comprehension will be the main driver of reading comprehension once decoding is mastered. Thus, instructional programs that work to develop both decoding and linguistic comprehension in the early grades may be the most effective approach in positively impacting reading comprehension performance in latter grades.

Francis, Kulesz, and Benoit Study

This article proposed a new statistical model of reading, the complete view of reading (CVRi). The model was designed to go beyond the SVR by integrating three approaches to understanding reading, the component skills framework (CSF), the text and discourse framework (TDF), and the developmental framework (DF). The CSF is an extension of the SVR that models the cognitive underpinnings of the two SVR components of decoding and linguistic comprehension. The TDF models differences between characteristics of text and linguistic discourse, and how these differences affect reading performance. The DF is focused on the development of reader characteristics. By combining the three approaches, the CVRi represents a class of models focused on capturing variations within readers in the component skills underlying reading, the development of those skills, and how those skills relate to reading performance across different text and discourse parameters. In short, the CVRi seeks to provide a model of personalized reading. A key issue raised by Francis et al. is whether the CVRi serves as an extension of the SVR or as its replacement—we comment more on this below.

In their study, Francis et al. employed a large sample of typical and struggling readers in Grades 6 to 8, collecting demographic data and taking multiple reading measures on them over time. The authors also measured parameters describing texts read, and their analyses captured differences between typical and struggling readers, differences across students in different grades, developmental changes within individuals, and the impacts of text features on reading skills. This is an impressive feat that goes well beyond a test of the SVR, and as such, it is beyond the scope of our commentary to summarize the study's approach and findings. We do, however, comment on the relation between the SVR and the CVRi, and what the model implies about both the value and utility of the SVR.

Francis et al. initially focus their discussion on model treatments of differences between texts. As stated earlier, the SVR does not deny that there are a large variety of linguistic and text features that interact with the cognitive skills of the reader. As a concurrent model of reading the SVR only holds that such features be held constant in assessing whether reading comprehension is the product of decoding and linguistic comprehension. Latent variable models can do this by including a broad set of measures in assessing each construct, as was the case in the first two papers discussed. But note that latent variables can also be narrowly defined by including multiple measures from more narrowly focused assessments, and it is in such cases where parallel assessments become most important in assessing the SVR. Thus, while the CVRi seeks to model text differences (among other things), assessments of the SVR need to hold them constant, either narrowly or broadly. This suggests that the two models may be attempting to address different issues within reading. Thus, the CVRi may serve neither as an extension nor a replacement of the SVR, but rather as a complementary model focused on other aspects of reading. In pursuing these characterizations below, we discuss each of the three issues that Francis et al. raise as limitations of the SVR.

First, Francis et al. hold that the SVR is limited because it lacks a stochastic component, one that would allow for random variation in the components when estimating the probability distributions of reading comprehension performance. Although Francis et al. argue that the SVR may not have been intended as a statistical model, they maintain nonetheless that this is a limitation. We would agree that the original intent of the SVR was to establish a conceptual model of reading, not a statistical one. It did, however, constitute a model that could be falsified in a straight forward manner, disproven by any single case of an individual who could read well but who could not recognize the printed words on the page or, alternatively, could not understand the language to be read (or both).

The second limitation of the SVR raised by Francis et al. is that the model is not explicitly developmental, and we agree with this as well. As stated earlier, the SVR is a concurrent model of reading, though developmental trends can be captured at a broad level through successive concurrent measures over time. Again, the SVR makes a strong empirical claim that reading comprehension, regardless of the developmental level of the reader at the time of measurement, from nonreader to fully proficient, will always be represented by the product of decoding and linguistic comprehension measured at that same time.

Third, Francis et al. hold that the SVR cannot account for variations in text features, again, we agree. As stated earlier,

the SVR is not designed to contrast parameters of text and the cognitive skills that may be needed to address them. But it does make a strong prediction that regardless of what those parameters are, when they are represented comparably in both comprehension constructs, reading comprehension will be defined by the product of decoding and linguistic comprehension.

In summary, we suspect the SVR and CVRi are addressing different issues in reading. That is, we do not see the above as limitations of the SVR in addressing its main issue of what accounts for reading skill in general. Rather we see these as limitations in the ability of the SVR to fully address additional issues. We recognize that these are important issues and believe that the CVRi may prove helpful in advancing our understanding of them. But at this point we do not know how best to characterize the contrasts between the SVR and CVRi models. For the CVRi to be an extension of the SVR, it would need to incorporate the SVR into its specifications; for it to be an alternative to the SVR, it would need to propose different accounts of the issues the SVR is designed to address; and for it to be complimentary to the SVR, it would need to hold that there is no overlap between the issues the two models address. To us, what is critical is whether the CVRi is claiming that at a given developmental point in time for the reading of materials with a given set of textual parameters, reading comprehension is not the product of decoding and linguistic comprehension limited to the same set of textual parameters. We do not see that Francis et al. have proposed their model to address this nor do we believe the current study is designed to provide an appropriate assessment of it (e.g., given its assessments of reading comprehension as oral reading fluency and listening comprehension as understanding spoken sentences). We believe additional work will be needed before the relationship between the SVR and CVRi models can be specified.

Finally, in terms of overall value, the CVRi, as noted by Francis et al., has great potential for enabling individualized instructional interventions that target personalized reading profiles. Nonetheless, given the current constraints on students, teachers, time, and data (for its capture, analysis, and use), there is great value in thinking about reading and delivering instructional interventions based on the SVR that more generally defines differences between readers.

Comments Across the Three Studies Reviewed

So what are the main conclusions we can draw from the three studies just reviewed? First, based on the benefits provided by latent variable modeling, the SVR continues to provide a robust description of reading comprehension for children in Grades 3 to 5, with word recognition and language comprehension capturing almost all of the variance in reading comprehension. The small amounts of remaining variance suggest that if there are other factors involved in reading, they will make relatively small contributions as proximal factors, or as distal ones they will likely operate through word recognition or language comprehension. Second, the two main component skills in reading at these later grades are substantially related to such skills in earlier grades, indeed as early as prekindergarten. Third, the contributions of word recognition and language comprehension vary with grade level, with word recognition generally making stronger contributions in the earlier grades and language comprehension in the later grades. Fourth, there are large amounts of shared variance between word recognition and language comprehension, and understanding the source of this overlap has important consequences for thinking about instructional interventions. Finally, there is much more to understand about reading than what is represented in the SVR, and the CVRi provides a promising approach for furthering our understanding through models that accommodate reading skills, their development, and the linguistic parameters of both discourse and text.

We note in closing that the idea that reading has two central parts, word recognition and language comprehension, has been around for a very long time, at least since Huey (1908). But thinking about reading as the product of these two parts, and only these two, was the insight Phil Gough brought to the field. His proposal had the elegance of simplicity that made a complex phenomenon easier to understand as a whole. And while it was powerful and had the ring of truth, it possessed an even more critical property – it was falsifiable. The studies we have reviewed here present strong evidence that the SVR continues to withstand rigorous empirical evaluation, providing a strong explanation of what reading is at the broadest level of analysis. And while reading is certainly complex, even as Huey (1908) demonstrated over a century ago, the insight formally expressed in this journal 30 years ago, continues to provide an enduring framework for thinking about this remarkable human feat of reading.

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Note

1. To avoid confusion in our comments on the studies reviewed below, we use the terms the authors used in their respective study for the SVR constructs. Outside of those comments, we use the terms word recognition, language comprehension, and reading comprehension (or reading) for the SVR constructs.

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